

What is claimed is:

1. A method of controlling transmission power of a terminal station in a wireless communication system including a plurality of base stations and a plurality  
5 of terminal stations,

each of said plurality of base stations, for measuring received powers of radio waves transmitted from said plurality of terminal stations and, when said received power is higher than a first threshold value,  
10 instructing the terminal station which has transmitted said radio wave to decrease the transmission power, and

each of said plurality of terminal stations, for decreasing the transmission power when at least one power control signal which gives an instruction to  
15 decrease said transmission power exists in said power control signals transmitted from the plurality of base stations, increasing the transmission power when said power control signal for giving an instruction to decrease the transmission power does not exist,  
20 comparing received powers of radio waves transmitted from said base stations with each other, selecting the base station which has transmitted the radio waves with the highest power, and transmitting a signal on which an identification code for identifying the base station  
25 is superimposed,

wherein in the case where the received power of the radio waves transmitted from the terminal station which has sent said identification code when said

identification code indicates the own base station is higher than said first threshold value, said base station transmits said power control signal for instructing the terminal station to decrease the transmission power and, in the case where said identification code transmitted from said terminal station indicates another base station or the received power of radio waves transmitted from said terminal station is lower than said first threshold value, the base station transmits a power control signal for giving an instruction increase the transmission power to stop said power control signal to the terminal station ,or stop to transmit a power control signal to the terminal station

2. A method of controlling transmission power of a terminal station in a wireless communication system including a plurality of base stations and a plurality of terminal stations,

each base station for measuring received powers of radio waves transmitted from terminal stations and, when the measured received power is higher than a first threshold value which is set by a predetermined procedure, instructing the terminal station which has transmitted the radio wave to decrease the transmission power, and

each of the terminal stations for decreasing the transmission power when at least one power control signal which gives an instruction to decrease in the

transmission power exists in signals transmitted from the base stations, increasing the transmission power when said power control signal for giving an instruction to decrease the transmission power does not exist, comparing received powers of radio waves transmitted from the base stations with each other, selecting the base station which has transmitted the radio waves with the highest power, and transmitting a signal on which an identification code for identifying the base station is superimposed,

wherein a second threshold value larger than said first threshold value is set in each of the base stations by a predetermined procedure,

in the case where the received power of the radio waves transmitted from a terminal station is higher than said first threshold value when said identification code transmitted from the terminal station indicates the own station, a base station transmits said power control signal for instructing the terminal station to decrease the transmission power, in the case where the received power of the radio waves transmitted from said terminal station is lower than said first threshold value when said identification code transmitted from said terminal station indicates the own station, the base station stops to transmit a power control signal to the terminal station, or transmits a power control signal increasing the transmission power to the terminal station, in the case

where the received power of the radio waves transmitted from the terminal station is higher than said second threshold value when aid identification code transmitted from said terminal station indicates

5 another station, the base station transmits said power control signal for instructing the terminal station to decrease the transmission power, and in the case where the received power of the radio waves transmitted from the terminal station is lower than said second

10 threshold value when said identification code transmitted from said terminal station indicates another station, the base station stop to transmit a power control signal to the terminal station, or transmits a power control signal increasing  
15 transmission power to the terminal station

3. The transmission power control method according to claim 1 or 2, wherein said plurality of base stations are connected to a common base station control device, and at least one of said first and second  
20 threshold values is set via said base station control device.

4. The transmission power control method according to claim 1 or 2, wherein said plurality of base  
25 stations are connected to each other via a switching network or the Internet, and at least one of said first and second threshold values is set via said switching network or the Internet.

5. A base station for transmitting a power control signal for controlling transmission power of a terminal station in a wireless communication system including a plurality of base stations and a plurality of terminal stations,

each of the base stations, for measuring received powers of radio waves transmitted from said plurality of terminal stations and, when the measured received power is higher than a first threshold value, transmitting a power-down control signal for instructing the terminal station which has transmitted the radio wave to decrease the transmission power, and

each of the terminal stations for decreasing the transmission power when there is said power-down control signal in at least one signal sent from the base stations, increasing the transmission power when said power-down control signal does not exist, comparing received powers of radio waves transmitted from the base stations with each other, selecting the base station which has transmitted the radio waves with the highest power, and transmitting a signal on which an identification code for identifying the base station is superimposed,

wherein the base station for use in a transmission power control system comprises:

a received power measuring part for measuring a received power of radio waves transmitted from a

specific terminal station when said identification code transmitted from said specific terminal station indicates the own station;

5 a first threshold memorizing part for holding said first threshold value;

a comparing part for comparing the received power measured by said received power measuring part with said first threshold value; and

10 power control signal generating means for generating, in accordance with a result of said comparing part, a power-down control signal for instructing said specific terminal station to decrease the transmission power when said measured received power is higher than said first threshold, and  
15 generating a power-up control signal for giving an instruction to increase transmission power to said specific terminal station, or stop to transmit a power control signal the when said identification code transmitted from said specific terminal station  
20 indicates another station or the received power of radio waves transmitted from said specific terminal station is lower than said first threshold value.

25 6. A base station for transmitting a power control signal for controlling transmission power of a terminal station in a wireless communication system including a plurality of base stations and a plurality of terminal stations,

each of the base stations, for measuring received powers of radio waves transmitted from the terminal stations and, when the measured received power is higher than a first threshold value, transmitting a  
5 power-down control signal for instructing the terminal station which has transmitted the radio wave to decrease the transmission power, and

each of the terminal stations for decreasing the transmission power when there is said power-down  
10 control signal in at least one signal sent from the base stations, increasing the transmission power when said power-down control signal does not exist, comparing received powers of radio waves transmitted from the base stations with each other, selecting the  
15 base station which has transmitted the radio waves with the highest power, and transmitting a signal on which an identification code for identifying the base station is superimposed,

wherein the base station for use in a  
20 transmission power control system comprises a signal processing circuit for performing the following process by a program, the process for measuring a received power of radio waves transmitted from a specific terminal station when said identification code  
25 transmitted from said specific terminal station indicates the own station, comparing the received power measured by said received power measuring part with said first threshold value, in accordance with a result

of said comparing part, generating a power-down control signal for instructing said specific terminal station to decrease the transmission power when said measured received power is higher than said first threshold, and  
5 generating a power-up control signal for giving an instruction to increase the transmission power of said specific terminal station, or stops to transmit a power-up control, when said identification code transmitted from said specific terminal station  
10 indicates another station or the received power of radio waves transmitted from said specific terminal station is lower than said first threshold value.

7. The base station according to claim 5, further comprising means for setting a second threshold value higher than said first threshold value,

wherein said power control signal generating means transmits a power-down control signal for instructing said specific terminal station to decrease  
20 transmission power in the case where said identification code sent from said specific terminal station indicates another station and the received power of the radio wave transmitted from said specific terminal station is higher than said second threshold  
25 value, and a power-up control signal for giving an instruction to increase the transmission power of said specific terminal station or transmits a power-up control signal for giving an instruction to increase



the transmission power of said specific terminal station when said received power is lower than said second threshold value.

5        8.        The base station according to claim 6, further comprising means for setting a second threshold value higher than said first threshold value,

             wherein a signal processing circuit executed by  
10        said program performs the following process by a program, the process for transmitting a power-down control signal for instructing said specific terminal station to decrease transmission power in the case where said identification code sent from said specific  
15        terminal station indicates another station and the received power of the radio wave transmitted from said specific terminal station is higher than said second threshold value, and stops to send a power control signal or transmitting a power-up control signal for  
20        giving an instruction to increase the transmission power of said specific terminal station when said received power is lower than said second threshold value.